Amendments to the Claims:

1. (currently amended) A method of constructing a preform for use in forming a machined structural assembly, comprising:

determining the dimensions of the machined structural assembly;

selecting first and second structural members based on the dimensions of the machined structural assembly, the structural members including excess material such that at least one of the structural members is larger in at least one dimension than the corresponding dimension of the machined structural assembly;

positioning the first structural member adjacent the second structural member so as to define at least two contact surfaces therebetween; and

linear friction welding the at least two contact surfaces of the first and second structural members to construct the preform such that the preform defines an elongate friction weld joint and has dimensions approximating the dimensions of the machined structural assembly to thereby reduce material waste and machining time when forming the machined structural assembly,

wherein said selecting step comprises selecting structural members with a combined mass of at least about twice the mass of the machined structural assembly.

2. (original) A method according to Claim 1 wherein said friction welding step comprises:

moving at least one of the first and second structural members relative to the other;

concurrently with said moving step, urging at least one of the first and second structural members toward the other to thereby generate frictional heat about the at least two contact surfaces;

terminating said moving step; and

concurrently with said terminating step, urging at least one of the first and second structural members toward the other as the at least two contact surfaces cool to thereby form a friction weld joint at least partially between the at least two contact surfaces.

3. (original) A method according to Claim 2 wherein said moving step comprises oscillating at least one of the first and second structural members relative to the other structural member.

4. (original) A method according to Claim 2 wherein said moving step comprises simultaneously moving the first and second structural members in opposing directions, wherein the opposing directions are parallel to the at least two contact surfaces.

5. (original) A method according to Claim 1 further comprising forming a relief groove proximate to at least one of the at least two contact surfaces prior to said positioning step.

6. (original) A method according to Claim 1 further comprising cleaning at least one of the at least two contact surfaces prior to said positioning step.

7. (original) A method according to Claim 1 further comprising processing at least one of the first and second structural members before said friction welding step, wherein said processing step comprises a material treatment selected from the group consisting of heat treating, aging, quenching, stretching, annealing, and solution annealing.

8. (original) A method according to Claim 1 further comprising friction welding a third structural member to at least one of the first and second structural members.

9. (currently amended) A method of forming a machined structural assembly, comprising:

determining the dimensions of the machined structural assembly;

selecting first and second structural members based on the dimensions of the machined structural assembly, the structural members including excess material such that at least one of the structural members is larger in at least one dimension than the corresponding dimension of the machined structural assembly;

positioning the first structural member adjacent the second structural member so as to define at least two contact surfaces therebetween; and

linear friction welding the at least two contact surfaces of the first and second structural members to construct a preform such that the preform defines an elongate friction weld joint and has dimensions approximating the dimensions of the machined structural assembly; and

thereafter, machining the preform to remove the excess material from the preform including at least a portion of the elongate weld joint to form the machined structural assembly defining the elongate friction weld joint and having the predetermined dimensions, at least one of the structural members defining a machined surface adjacent the elongate friction weld joint,

wherein said machining step comprises removing at least about one-half of the mass of the preform such that the structural member has a mass of less than about one-half of the preform.

10. (original) A method according to Claim 9 wherein said friction welding step comprises:

moving at least one of the first and second structural members relative to the other;

concurrently with said moving step, urging at least one of the first and second structural members toward the other to thereby generate frictional heat about the at least two contact surfaces;

terminating said moving step; and

concurrently with said terminating step, urging at least one of the first and second structural members toward the other as the at least two contact surfaces cool to thereby form a friction weld joint at least partially between the at least two contact surfaces.

11. (original) A method according to Claim 10 wherein said moving step comprises simultaneously moving the first and second structural members in opposing directions, wherein the opposing directions are parallel to the at least two contact surfaces.

12. (original) A method according to Claim 10 wherein said moving step comprises oscillating at least one of the first and second structural members relative to the other structural member.

13. (original) A method according to Claim 9 further comprising forming a relief groove proximate to at least one of the at least two contact surfaces before said positioning step.

14. (original) A method according to Claim 9 further comprising cleaning at least one of the at least two contact surfaces prior to said positioning step.

15. (original) A method according to Claim 9 wherein said machining step comprises machining at least a portion of the friction weld joint joining the first and second structural members.

16. (original) A method according to Claim 9 further comprising processing at least one of the first and second structural members before said friction welding step, wherein said processing step comprises a material treatment selected from the group consisting of heat treating, aging, quenching, stretching, annealing, and solution annealing.

17. (original) A method according to Claim 9 further comprising processing the preform before said machining step, wherein said processing step comprises a material treatment selected from the group consisting of heat treating, aging, quenching, stretching, annealing, and solution annealing.

18. (original) A method according to Claim 9 further comprising friction welding a third structural member to at least one of the first and second structural members.

19-32. (cancelled)

33. (previously presented) A method according to Claim 9 wherein said machining step comprises machining each of the structural members adjacent the elongate weld joint such that each of the structural members defines a machined surface adjacent the elongate weld joint.

34. (new) A method according to Claim 1 wherein said selecting step comprises selecting at least one of the structural members defining the excess material over an entire exposed surface.

35. (new) A method according to Claim 1 wherein said determining step comprises determining a curved contour of the structural member and wherein said selecting and linear friction welding steps comprise selecting and welding the structural members as rectangular blocks.

36. (new) A method according to Claim 9 wherein said machining step comprises removing excess material from an entire exposed surface of at least one of the structural members.

37. (new) A method according to Claim 9 wherein said selecting and linear friction welding steps comprise selecting and welding the structural members as rectangular blocks and wherein said machining step comprises machining at least one of the structural members to define a curved contour.